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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VU, MICHAEL T

ART UNIT

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2617

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12/15/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/534,380	Applicant(s) KROTH ET AL.	
	Examiner MICHAEL T. VU	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-20, 26-29 and 33-37 is/are rejected.
- 7) ☒ Claim(s) 21-25 and 30-32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Remark, filed 09/20/2010, with respect to the rejection(s) of claim(s) 17-37 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Sachs et al (US 7,145,897) and in view of Agarwal et al (US 6,690,661).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 17-20, 26-29 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over of Sachs et al (US 7,145,897) in view of Agarwal et al (US 6,690,661).**

Regarding claims 17, 33, 35, 36 and 37, Sachs teaches a method for controlling uplink access transmissions in a radio communication system (Sachs: Figs. 1 & 2 shows controlling the transmission between the UE and BS), comprising:

determining a random delay time for user equipment to transmit a signal on an uplink access channel based upon a probability distribution that increases in density with increasing delay (Sachs: discloses controlling the parameters, the transmissions and number of users that use random access channel (RACH), see Col. 1 lines 48 to Col. 2 line 33, includes retransmission timers that controlled the transmission delay which detected the total channel access delay and determined by different parameters or conditions, e.g. a random initial delay and an access delay, see Col. 4 lines 17-20),

Sachs fails to show the random delay time being determined by the user equipment.

However, Agarwal the random delay time being determined by the user equipment (Agarwal: discloses the collisions and the Delay Time of Acknowledgment to Broadcast Tele-service Message (DTABTM), see Col 5 line 1-61, in which the mobile telephone/user to determine a random delay, particularly Col 5 lines 32-34). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Sachs, with Agarwal's teaching, in order to enhance the wireless communication to reduce collisions in particularly to controlling the random access channel for preventing the channel congestion or delay (as suggested by Agarwal, see Col. 2 lines 1-9).

Regarding claim 18, Sachs and Agarwal teach the method according to claim 17, Sachs further discloses wherein the delay time is determined upon receipt of a

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request for uplink access transmissions from a base station (Sachs: Fig. 4 shows a timer that determined the delay/error/waiting time).

Regarding claim 19, Sachs and Agarwal teach the method according to claim 18, Sachs further discloses wherein the base station transmits the request on a paging channel **or** on a control channel (Sachs: Figs. 1 & 2 show the control channel during a channel access delay, and Fig. 4 shows a timer that determined the delay/error/waiting time).

Regarding claim 20, Sachs and Agarwal teach the method according to claim 17, Sachs further discloses wherein the signal for which the delay time is determined is a response signal transmitted by the user equipment on a contention based common uplink access channel (Sachs: Figs. 1 & 2 show the control channel during a channel access delay, and Fig. 4 shows a timer that determined the delay/error/waiting time).

Regarding claim 26, Sachs and Agarwal teach the method according to claim 17, Sachs further discloses wherein a base station associated with a communication network issues a request (Sachs: Col. 4 lines 43-57), after the delay time (Sachs: discloses after delay attempt, Col. 7 lines 18-26), the user equipment performs an uplink access transmission as a response to the request, the network determines if the number of user equipments responding to the request exceeds a predetermined threshold (Sachs: Figs. 4 and 7b show the level that set by a timer, compared smaller

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than or equal data packets, Col. 7 lines 1-17), and the network signals to the user equipments to terminate further uplink access transmissions if the threshold is exceeded (Sachs: Fig. 7b shows predetermined by timer expires and see retransmission timers and an Automatic Repeat Request that includes the timer, Col. 1 lines 48 to Col. 2 line 33).

Regarding claim 27, Sachs and Agarwal teach the method according to claim 26, Sachs further discloses wherein to signal the user equipments to terminate further uplink transmissions (Sachs: discloses the protocol stack layers controlled the termination/connection, Col.5 lines 41-61), the network transmits a dedicated termination signal to the user equipments (Sachs: discloses the layers service, Col.5 lines 41-61), **or** signals an allocation of resources that implicitly indicates termination is required (Sachs: discloses the radio link control, or redistribution of information between connections on the different layers, Col. 6 lines 13-14)..

Regarding claim 28, Sachs and Agarwal teach the method according to claim 26, Sachs further discloses wherein dependent on the number of user equipments responding to the request (Sachs: discloses the control parameters according to the number of users, Col. 1 lines 62-64), the network either assigns common resources for at least a plurality of the user equipments **or** assigns individual resources for each user equipment (Sachs: discloses the common interlayer service, Col. 1 lines 39-64).

Regarding claim 29, Sachs and Agarwal teach the method according to claim 19, Sachs further discloses wherein the signal for which the delay time is determined is a response signal transmitted by the user equipment on a contention based common uplink access channel (Sachs: Fig. 7b shows predetermined by timer expires and see retransmission timers and an Automatic Repeat Request that includes the timer, Col. 1 lines 48 to Col. 2 line 33).

Regarding claim 34, Sachs and Agarwal teach the method according to claim 33, Sachs further discloses wherein the user equipments each perform a comparison of a randomly determined number with the time variable information (Sachs: Fig. 4 shows compared data packets) and based on the result of the comparison (Sachs: Fig. 4 compared the statistical distribution data packets, Col. 7 lines 1-17), each user equipment controls the transmission of said signals on the uplink access channel (Sachs: Figs. 4 & 7b show the transmission that controlled the channel).

Allowable Subject Matter

4. Claims 21-25, and 30-32, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claims 21, the prior art of record fails to teach alone or in combination the method according to claim 17, wherein the probability distribution is determined according to: $p(t) = x \cdot e^{Xt} / (e^{XT} - 1)$ for $t \in [0, T]$ wherein $p(t)$ denotes a probability that a delay time t is selected, T denotes a predetermined maximum delay time, and x is a parameter that controls a rate of change of probability with time.

For claims 22, the method according to 17, wherein the probability distribution is determined according to: $p(j) = q^n - j \cdot q^{n-1} / (1 - q^n)$ for $j \in [0, n]$ wherein n is the number of sub-intervals in a predetermined time interval T , $P(j)$ denotes a probability that sub-interval j is selected, and q is a parameter that controls a rate of change of probability within a sub-interval.

For claims 23, the method according to claim 17, wherein the probability distribution is determined according to: $P(j) = (q^n - j \cdot q^{n-1}) / (1 - q^n)$ for $j \in [1, n]$ wherein n is the number of sub-intervals in a predetermined time interval T ; $P(j)$ denotes a probability that sub-interval j is selected, and q is a parameter that controls a rate of change of probability within a sub-interval.

For claims 30, the method according to claim 17, wherein the probability distribution is determined according to: $p(t)=x \cdot \exp(-xT)$ for $t \in [0, T]$ wherein $p(t)$ denotes a probability that a delay time t is selected, T denotes a predetermined maximum delay time, and x is a parameter that controls a rate of change of probability with time.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL T. VU whose telephone number is (571)272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles N. Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL T VU/
Examiner, Art Unit 2617